

MINED LAND RECLAMATION -- CHECKLIST

TITLE 40-8 UCA 1953
GENERAL RULES AND REGULATIONS
RULES OF PRACTICE AND PROCEDUREMINE Mercur Canyon Project
ACT/ 0457 013 COUNTY Tade Co.
COMPANY REPRESENTATIVE Robert L. HantalaMINE PLAN DATE 9 Mar 80
DATE RECEIVED Mar 10, 1981
DOGM LEAD REVIEWER Tom Letting

CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
	LEGAL,, FINANCIAL			
M-3/MR 1/1.	Name of Applicant	✓	✓	
M-3/MR 1/2.	Address Permanent Temporary	✓	✓	
M-3/MR 1/3.	Company Representative Name Title	✓	✓	
M-3/MR 1/4.	Address Office Phone	✓	✓	
M-3/MR 1/5.	Location County Township/Range/Section	✓	✓	
M-3/MR 1/6.	Name of Mine	✓	✓	
M-3/MR 1/7.	Mineral to be Mined	✓	✓	
M-3/MR 1/8.	Other Approvals/Listed	✓	✓	
M-3/MR 1/9.	Owners of Record of Land Affected	✓	✓	
M-3/MR 1/10.	Owners of Record of Minerals to be Mined	✓	✓	
M-3/MR 1/11.	Owners of Record of all Other Minerals	✓	✓	should mineral surface rights ownership be separated

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M-3/MR 1/11a.	Notification of Other Owners in Writing	✓	✓	Patented + unpatented claims OK
M-3/MR 1/12.	Legal Right to Enter & Conduct Operations	✓	✓	
M-3/MR 1/13.	Acreage	✓	✓	
	1. Operation Area			
	2. Access Road or Haulways			
	3. Drainage System			
	4. Total Land Affected			
M-3/MR 1/14.	Principal Executives, Officer & Partners	✓	✓	
	Name			
	Title			
	Address			
M-3/MR 1/15.	Previous Notice of Intention Withdrawn	✓	✓	
M-3/MR 1/16.	Signed	✓	✓	
	<u>MAPS AND PLANS</u>			
M-3(1)	True Copy Map or Plat	✓	✓	
M(3)(1)(a)	Land Affected Delineation	✓	✓	
M(3)(1)(b)	Within Land Affected			
	Existing Mine Areas			
	Active	✓	✓	
	Abandoned (prior to May, 1975)			
	Boundaries of Surface Properties			
	Names of Surface Owners			
	Names of Mineral Owners			

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M-2	<p>"Land Affected means the surface and subsurface of an area within the state where mining operations are being or will be conducted, including, but not limited to: on-site private ways, roads, and railroad lines appurtenant to any such area; land excavations; exploration sites; drill sites or workings; refuse banks or spoil piles; evaporation or settling ponds; leaching dumps; placer areas; tailings ponds or dumps; work parking, storage, or waste discharge areas; areas in which structures, facilities, equipment, machines, tools or other materials or property which result from or are used in such operations, are situated. All lands shall be excluded that would be otherwise includable as land affected but which have been reclaimed in accordance with an approved plan or otherwise, as may be approved by the Board, and lands in which mining operations have ceased prior to July 1, 1977."</p>	✓	✓	
M-3(1)(c) M6	<p>"All maps and plans prepared for submission with the Notice of Intention to Commence Mining Operations shall be of adequate</p>			

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M-3(1)(c) M6 (continued)	scale and detail to show topographic features and clearly indicate details of the proposed operations in accordance with Rule M-3. A color code, or other legend, shall be used in preparing all maps to clearly indicate surface features of the land affected."	✓	✓	
M-3(1)(d)	Names and Locations Lakes, Rivers, Streams, Creeks ✓ Roads, Buildings ✓ Active, Abandoned Facilities ✓ Transmissions Lines (within 500 feet) ✓	✓	✓	
M-3(1)(e)	Drainage Plan Overburden, Topsoil, Waste Stockpiles ✓ Directional Flow ✓ Constructed Drainways, Diversions, Berms ✓ Receiving Waters ✓	✓	✓	
M-3(1)(f)	Drill Holes Location ✓ Status ✓ Depths and Thickness ✓ Water Bearing Strata ✓ Mineral Deposits ✓ Toxic Materials ✓ Revegetation Materials (topsoil) ✓	✓	?	question depth of drill what present status on plugging gold only mineral encountered.
M-3(1)(g)	Locations of Disposal and Stockpile Areas ✓ Topsoil Storage ✓ Overburden Materials ✓ Waste, Tailings, Rejected Materials ✓ Tailings-Ponds ✓ Discharge Points, Water Effluents ✓	✓	✓	

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
	<u>EFFLUENT CONTROL</u>			
M-10/11	Methods for Controlling Sediment	✓	✓	
M(3)(3)(11)	"Sediment Control--Mining operations shall be conducted in a manner such that sediment from areas disturbed in mining or reclamation activities is adequately controlled. The degree of sediment control shall be appropriate for the site-specific and regional conditions of topography, soil, drainage, water quality, or other characteristics."	✓	✓	
M-3(1)(h)	Description of Water to be Disposed Expected Acid or Salt Content Expected Toxicity Expected Impact on Downstream Waters Description of Discharge Permits	✓	✓	
M-3(3)	<u>OPERATION PLAN/SITE CONSTRUCTION</u>			
M-3(3)/MR 1-7 MR 2-7	Mining Method General Details If Sedimentary Deposit Seam Thickness Dip Outcrop	✓ N/A	✓	
MR 2-11(1)	Mining Sequence	✓	✓	
MR 2-11(b)	Construction and Maintenance of Access Roads Procedures Cross-section Profile	✓	✓	

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
MR 2-11(c)	Site Preparation Trees Brush	?		Not covered what will be done with material <i>yes ask them?</i>
M-3(2)c MR 2-11(d)	Topsoil, Root Growth, Medium	✓	✓	
MR-2/11(c)	Methods for Removal Amounts of Topsoil Removed — <i>ask for it</i> <u>Methods of Topsoil Protection</u>	✓	✓ <i>OK see P. 7-49</i>	<i>amounts left at stockpile need for est at reclam. cover.</i>
M-10(14)	"Soils--Except where slope or rocky rocky terrain make it impossible, all surficial materials, suitable as a growth medium, prior to any major excavation, shall be removed, segregated, and stockpiled according to its ability to support vegetation as determined by soil analysis and/or practical revegetation experience. The stockpiles shall be protected in such a manner as to minimize or prevent wind and water erosion, unnecessary compaction, and contamination by undesirable materials. Redistribution and surficial material after final grading shall be accomplished in such a manner as to promote revegetation success."	✓	✓	<i>addressed Plan for them.</i>
M-3(2)c MR 2-11(e)	Disturbed and Excess Materials Tailings, Waste and Reject Handling Method of Placement and Containment Stability and Erosion Control Overburden Method of Placement and Containment Stability and Erosion Control Toxic, Acid/Alkali Producing Materials	✓	?	<i>Solid waste disposal in sanitary landfill, where?</i>

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
MR-2/10.	Determination as Toxic, Acid, Alkali Testing Procedure and Results	✓	✓	
M-2 K(6)	"Toxic means any chemical or biological or adverse characteristic of the material involved which could reasonably be expected to negatively affect ecological or hydrological systems or could be hazardous to the public safety and welfare."	✓	✓	
M-10(6)	"Toxic Materials--All toxic or potentially toxic material, as defined by Rule M-2(k), shall be safely removed from the site or left in an isolated condition such that solid, liquid or gaseous toxic emissions to the environment are reasonably eliminated or controlled. Such isolation practices may include, but not be limited to, burial, subsurface injection, chemical precipitation or neutralization, and filtering. All appropriate regulations of the Division of Health must be complied with as well as Federal regulations."	✓	?	what will be done with waste oil tank during reclamation.
M-3(2)(c) MR-2/11(e)	Method of Placement and Containment Stability and Erosion Control	✓	✓	

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
M-3(2)	<u>RECLAMATION PLAN</u>			
M-10	<p>"The following reclamation standards are established where applicable for all work or activity required to be performed in accordance with reclamation plans approved subsequent to June 1, 1978. Mine workings abandoned prior to May, 1975, need not be reclaimed unless said workings are utilized for subsequent operations. Areas on which these standards are proposed to be non-applicable will be designated on the maps submitted by this operator in accordance with Rule M-6, and may be shown on supplementary ground or air photographs.</p> <p>Said standards shall apply to all operators covered by a mining and reclamation plan and variances to all portions herein will be considered on a site-specific basis by the Division and/or Board."</p>	✓	✓	
M-21	<p>"Reclamation means actions performed during or after mining operations to shape, stabilize, revegetate, or otherwise treat the land affected in order to achieve a safe, stable, ecological condition and use which will be consistent with local environmental conditions."</p>	✓	✓	

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M-3(2)/MR 2,3	Land Uses	✓	✓	
M-3(2)(a)	Prior Land Uses	✓	✓	
M-3(2)(a)	Current Uses	✓	✓	
M-3(2)(b)	Potential Uses	✓	✓	
M-10(1)	"Land Use--The operator shall abandon the area affected in a condition which is capable of supporting a postmining use that is compatible with probable land uses."	✓	✓	
M-3(2)/MR 2-4	Existing Vegetation Percent Cover	✓	yes ?	Combine all cover values = 42.375% <u>x.7</u> = 29.66 - required to reach to 70% of original
M-3(2)/MR 2-5	Existing Soils pH	✓	✓	
	Soil Lab Reference	✓	✓	
M-3(2)/MR 2-6	Site Elevation	✓	✓	
	Site Abandonment	✓	✓	
M-10(2)	"Public Safety and Welfare--The operator shall minimize hazards to the public safety and welfare following mining. Methods to minimize hazards shall include but not be limited to: (a) The closing of shafts and tunnels to prevent unauthorized or accidental entry.	✓	✓	

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M-10(2) (continued)	<p>(b) The disposal of trash, scrap metal and wood, unuable buildings extraneous debris and other materials incident to mining in a manner approved by the Division and in accordance with the Rules and Regulations of the Division of Health.</p> <p>(c) The plugging and capping of drill, core or other exploratory holes as set forth in Rule M-3(5).</p> <p>(d) The posting of appropriate warning signs in locations where public access to operations is readily available.</p> <p>(e) The construction of berms, fences and/or barriers above high-walls or other excavations when required by the Division."</p> <p>Structure Removal</p>	<p>✓</p> <p>?</p> <p>Not needed Present unless Road thru operation will remain open to public - check it out.</p> <p>✓</p>	<p>✓</p> <p>?</p> <p>✓</p>	<p>Plugging procedure on exploratory holes. sigl?</p> <p>Need signs and indicators of top soil piles as well. NO</p> <p>Is concrete foundation removal necessary?</p>
M-10(9)	<p>"Structures and Equipment--All structures, rail lines, utility connections, equipment, and debris shall be removed from the surface prior to regarding and reclamation unless temporarily abandoned or approved by the Division for a continuing use."</p>	<p>✓</p>		<p>explosives use permits clarification Rules ?</p>

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M-3(2)(d) MR-2(f)	Procedures and Methods For Final Stabilization and Regrading	✓	✓	
MR-2(a)	Typical Cross-section of Regraded areas Specific Description of Regrading areas			<i>Descriptions provided adequate understanding is X-section necessary.</i>
M-10(10)	"Shafts and Portals--All shafts and portals shall be covered or closed and all trenches and small pits shall be backfilled or covered when a mine has been abandoned so as to eliminate any safety hazard.	✓	✓	
	Roads and Pads--On-site roads and pads shall be reclaimed or stabilized when the operator determines that they are no longer needed for mining operations. The reclamation should include provisions for adequate surface drainage protection and unrestricted drainage crossings. When a road or pad is to be turned over to an approved continuing use, as determined by the operator, the operator shall turn over the property with adequate surface drainage, drainage structures, ditching, and in a general condition suitable for the continued use.	✓	✓	
	Highwalls--In strip mining or open pit mining and in open cuts for pads or roadways all such highwalls shall be reclaimed by backfilling			

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Highwall: (continued)	<p>against them or by cutting the wall back to achieve a slope angle of 45° or less. Where the highwall is composed of solid rock; is designed to be stable utilizing benches, tie-backs, etc.; or, there is insufficient material reasonably available to backfill; or cutting the wall back would result in excessive damage to undisturbed land above the highwall; and taking into consideration suitable alternative safety measures; future land use, etc.; the Division may modify or waive the above requirements."</p>	✓		sufficient? Highwall design
MR-2(e)	<p>Description of Maximum Slope Grades</p> <p>"Slopes--All waste piles, spoil piles, and fills shall, if possible, be regraded to a rounded configuration and they shall be sloped to minimize safety hazards and erosion. The angle of slope from the bottom to the top of the pile or fill can be greater than the surrounding terrain provided that the mass stability of the slope is assured and that the erosion of the slope is minimized by measures such as, but not limited to; terracing, surface drainage facilities, cross-slope ripping or scarifying and vegetation. In no case shall the slope of a pile or fill exceed the angle of repose of</p>	✓	✓	

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Slopes (continued)	the material or such lesser slope as required by the Division considering such factors as: land use, material properties, revegetation potential or erosion control."			
MR-2(1)	Description of Determining Stability of Reclaimed Fill Material	?		ask Lee.
MR-2(f)	Description of the Method of Drainage Control for Regraded Areas "Drainages--All natural channels and associated flood plains shall not be covered, restricted or rerouted by roads, pads, piles, fills or diversions unless specifically approved by the Division after a suitable hydrologic study and incorporating a sound hydraulic design. All drainage structures, sediment or flood control structures, spoil, ore, waste, fill material and debris must be removed from natural channels and flood plains before an operator abandons the site except where approved by the Division.	✓	✓	

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M-10(13)	Dams--All major water impounding structures such as tailings, dams, water storage and supply dams, coal waste dams and major sedimentation control dams shall be reclaimed when abandoned so as to be nonimpounding, self-draining, mechanically stable and protected from erosion.	✓	✓					
M-10(3)	Impoundments--All evaporation, tailings and sediment ponds; spoil piles, fills, pads and regraded areas shall be self-draining and nonimpounding when abandoned unless previously approved as an impounding facility by a lawful state or federal agency."	✓	✓	Is settling pond usage for wildlife (upon water quality approval) alright?				
MR-2(10)	Topsoil Distribution Plans Specific Description of Spreading Topsoil/ Growth Medium Approximate Thickness of Topsoil/ Growth Medium	✓	?	est. thickness of topsoil spread?				
MR-2(3)	Description of Surface Preparation			Ask them for their calculations as per their discussion on P. 2-46, by area + plans for replacement				
MR-2(1)	Revegetation Plans Who Will Complete Revegetation? Seed Bed Preparation	✓	✓	Ask for: <table><tr><td>Removed</td><td>Replace</td></tr><tr><td>Area</td><td>amount</td></tr></table>	Removed	Replace	Area	amount
Removed	Replace							
Area	amount							

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MR-2(1)	Description of Soil Treatments to Aid Revegetation	✓	✓	
M-10.12	"Practical land treatments may include but not be limited to: scarifying, mulching, fertilization, irrigation, chisel plowing, harrowing and the introduction of soil mycorrhiza.	✓	✓	
M-10.12	<u>Description of Method for Testing Soil to Support Vegetation Fertilization Plans</u>	✓	?	are descriptions of test plots "adequate"? yes
MR-2-2.	Mulch Type Rate/Acre Seeding			Mulch should be included in test plots if test plots are being utilized to demonstrate that revegetation is not attainable
M-3(2)(e())	"A planting program as best calculated to revegetate the land affected. Where there is no original protective cover, an alternate practical procedure should be proposed to minimize or control erosion or siltation. When applicable, the objective in revegetation should be to stabilize the land as quickly as possible after it has been disturbed in order to achieve permanent and protective vegetative cover. Non-noxious native plants that will give a quick, permanent, protective cover and enrich the soil shall be given priority."	✓	✓	

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CITATION	REGULATION	INCLUDED IN PLAN	ADEQUATE	COMMENTS
MR 2-1	Description of Seeding Method	✓	✓	
MR 2-3	Justification of Seed Mix	✓	✓	
M-10(12)	<p>"Revegetation--Where possible, a self-sustaining vegetative cover consisting of non-noxious perennial plants shall be established by the operator subsequent to final grading on the entire area affected. Plants shall be a diverse mixture of grasses, shrubs, forbs and where potential for forestation exists, trees; the mixture may include both native and introduced species. Revegetation shall be performed using professionally accepted methods such as seeding, transplanting or propagating by cuttings.</p> <p>(1) The species selection shall reflect the post-mining land use as set forth in Rule M-10(1)</p>	✓	✓	
MR-2 3.	U. S. Soil Conservation Service	✓	✓	
MR-2 3.	Test Plots Use of Seed Mix	✓	✓	
MR-2 3.	<p>Description of Application Location/Facing (bearing) Rate Per Acre (PLS) Species Mix Per Location Season to be Planted Maintenance/Monitoring</p>	OK	OK	sub?

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MR-2/5.	Description of Irrigation Methods To Establish Vegetation Inspections Frequency ? Purpose Livestock Grazing Fencing Vegetation Protection	✓	?	
M-3(2)(f)	Reclamation Schedule Estimated Time for Construction Estimated Time for Interim Reclamation <u>Estimated Duration of Mining Operation</u>	✓	?	Specific times not given?
MR-2 8. M-3(2)f	A Time Table for the Accomplishment of Each Major Step in Reclamation Plans	?	?	not given
M-5	Reclamation Surety Estimate Estimate Based on Reclamation Plan Cleanup and Removal of Structures Grading and Contouring Stabilization Labor Safety and Fencing Monitoring			Est. surety not submitted Either do one or ask for one
M-3	Standard of Reclamation Success "(2) Revegetation shall be deemed to be accomplished and successful when: (a) Species intended for revegetation by this Rule have achieved a surface cover of at least 70% of the representative vegetative communities surrounding the mine. Surrounding vegetative cover levels shall be			

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CITATION	REGULATION	IN PLAN	ADEQUATE	COMMENTS
(a) (continued)	<p>determined by the operator using professionally accepted inventory methods and be approved by the Division.</p> <p>(b) The vegetation initiated on the area affected has survived for at least three (3) growing seasons, is evenly distributed, and is not supported by irrigation or continuing soil amendments.</p> <p>(3) Exceptions to Part 12 may be granted by the Division for areas which consist of solid rock outcrops and it is deonstrated by the operator that sufficient surficial soil does not exist for covering said outcrops. Test plots established by the operator in consultation with the Division shall demonstrate after all practical land treatments have been attempted that the revegetation standards are not attainable."</p>			
M-10 MR-8	Commitment to Rule M-10.			

*Must request a
variance for pit.*